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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/579,790

05/18/2006

Yoshiyuki Takase

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EXAMINER

BUIE-HATCHER, NICOLE M

ART UNIT

PAPER NUMBER

1767

NOTIFICATION DATE

DELIVERY MODE

11/12/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/579,790	Applicant(s) TAKASE ET AL.	
	Examiner NICOLE M. BUIE-HATCHER	Art Unit 1767	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 October 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5 is/are allowed.
- 6) ☒ Claim(s) 7-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Response to Amendment

The amendment filed 04/08/2010 has been entered. **Claims 1-5 and 7-10** remain pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schreyer (US 3,085,083) in view of Morgan et al. (US 4,626,587).

Regarding claims 7 and 9-10, Schreyer discloses a fluoro-polymerized material in Example V and Table IV comprising a copolymer of tetrafluoroethylene and hexafluoropropylene containing 15% by mass of hexafluoropropylene, said fluoropolymer is one of which polymer terminal groups are $-\text{CF}_2\text{H}$ and the number of unstable terminal groups is 3.2 per 10^6 carbon atoms in treated polymer at 4 hr at 350°C in air oven at water concentration of 0.04 lb H_2O /lb air, and said fluoropolymerized material does not substantially contain a metal residue containing an alkali metal element and/or alkaline earth metal content (Since Schreyer teaches that the copolymer is washed repeatedly to remove any inorganic materials in the polymer, there would be no metal residue which would meet the claimed range, absent objective to evidence of the contrary). Schreyer is concerned with thermal stability of fluorocarbon polymers (C1/L11-68).

However, Schreyer does not disclose the volatile matter index of the fluoropolymer is not higher than 15. Morgan et al. teach a process for subjecting a melt-processible copolymer of tetrafluoroethylene and hexafluoropropylene through a twin screw extruder to obtain a copolymer having a backbone volatiles index less than 10 (C2/L1-18, C2/L34-46). Morgan et al. is concerned with thermal stability (C1/L13-14). Schreyer and Morgan et al. are analogous art concerned with similar technical difficulty, namely melt processible copolymers of tetrafluoropropylene and hexafluoropropylene concerned with thermal stability. It would have been obvious to one of ordinary skill in the art at the time of invention to use the step of subjecting the fluorocopolymer through a twin extruder to obtain backbone volatiles index less

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than 10 per the teachings of Morgan et al. in the process of Schreyer, and the motivation to do so would have been as Morgan et al. suggests that unstable backbone links may be removed under conditions of high shear (C1/L65-68) and also to obtain a fluoropolymer which does not cause bubble formation during melt fabrication (C1/L41-62). Therefore, reducing the volatile matter index per teachings of Morgan et al. of the composition of Schreyer is obvious.

However, Schreyer does not disclose the yellow index of the fluoropolymer. The Office realizes that all of the claimed effects or physical properties are not positively stated by the reference(s). However, the reference(s) teaches all of the claimed ingredients. Therefore, the claimed effects and physical properties, i.e. yellow index of the fluoropolymer would implicitly be achieved by a composition with all the claimed ingredients. If it is the applicant's position that this would not be the case: (1) evidence would need to be provided to support the applicant's position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain the claimed properties with only the claimed ingredients. Thus, the yellow index of the fluoropolymer would implicitly be achieved by a composition with all the claimed ingredients.

Regarding claim 8, Schreyer does not disclose the fluoropolymer is a product obtained by emulsion polymerization. Regarding the method limitations, the examiner notes that even though a product-by-process is defined by the process steps by which the product is made, determination of patentability is based on the product itself. *In re Thorpe*, 777 F.2d 695, 227 USPQ 964 (Fed. Cir. 1985). As the court stated *in Thorpe*, 777 F.2d at 697, 227 USPQ at 966 (The patentability of a product does not depend on its method of production. *In re Pilkington*, 411 F. 2d 1345, 1348, 162 USPQ 145, 147 (CCPA 1969). If the product in a product-by-process

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claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process). See MPEP § 2113. Therefore, the fluoropolymer of Schreyer is the same or obvious from a product of the prior art.

Response to Arguments

Applicant's arguments with respect to **claims 7-10** have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

Claims 1-5 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: the closest prior art of record, Schreyer teaches a fluoro-polymerized material. However, Shreyer does not teach or suggest melt-kneading a fluoropolymer with unstable terminal group or groups comprising alkoxycarbonyl groups and/or fluoroalkoxycarbonyl groups.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hiraga et al. (US 2003/0208005 A1) teaches a method for stabilizing a fluorine-containing polymer. However, Hiraga et al. does not teach the fluoropolymer contains unstable terminal group or groups comprising alkoxycarbonyl groups and/or fluoroalkoxycarbonyl groups [0003].

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NICOLE M. BUIE-HATCHER whose telephone number is (571)270-3879. The examiner can normally be reached on Monday-Thursday with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571)272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/N. M. B./
Examiner, Art Unit 1767
10/28/2010

/Mark Eashoo/
Supervisory Patent Examiner, Art Unit 1767